WE CLAIM

1. A micro-electromechanical liquid ejection device that comprises

a substrate that incorporates drive circuitry;

nozzle chamber walls that are positioned on the substrate to define a nozzle chamber, the nozzle chamber walls including a roof wall that defines an ejection port in fluid communication with the nozzle chamber, the substrate defining an inlet passage through the substrate and into the nozzle chamber;

an elongate drive member, the drive member being fast with the substrate at a fixed end and incorporating an electrical circuit that is in electrical contact with the drive circuitry to receive an electrical signal from the drive circuitry, the drive member being configured so that a free end of the drive member is displaced relative to the substrate on receipt of the electrical signal;

a motion-transmitting member that is fast with the free end of the drive member so that the motion-transmitting member is displaced together with the free end; and

an elongate liquid displacement member that is fast at one end with the motion-transmitting member and extends into the nozzle chamber to be displaced together with the motion-transmitting member to eject liquid from the ejection port.

2. A liquid ejection device as claimed in claim 1, in which the motion-transmitting member defines a first class lever and has an effort formation that is fast with the free end of the drive member, a load formation that is fast with the liquid displacement member and a fulcrum formation that is fast with the substrate, the effort and load formations being pivotal with respect to the fulcrum formation.

3. A liquid ejection device as claimed in claim 1, in which the drive member is a thermal bend actuator of the type that uses differential thermal expansion to achieve displacement.

4. A liquid ejection device as claimed in claim 3, in which the thermal bend actuator is of a conductive material that is capable of thermal expansion and has an active portion and a passive portion, the active portion defining the electrical circuit, in the form of a heating circuit, so that the active portion is heated and expands relative to the passive portion on

receipt of the electrical signal to generate displacement of the actuator in one direction and termination of the signal results in contraction of the active portion to generate displacement of the actuator in an opposite direction.

5. A liquid ejection device as claimed in claim 4, in which the conductive material of the actuator is resiliently flexible to facilitate said displacement of the actuator in the opposite direction.

6. A liquid ejection device as claimed in claim 2, in which the drive member, the working member and the fulcrum formation are of the same material, while the effort formation and the load formation are of a different material to that of the drive member and the working member.

7. A liquid ejection device as claimed in claim 6, in which the fulcrum formation is configured to facilitate resilient deformation of the fulcrum formation to accommodate movement of the effort formation and the load formation.

8. A liquid ejection device as claimed in claim 2, in which the fulcrum formation and the load formation define one of the nozzle chamber walls, the roof wall and the load formation defining a gap to permit relative movement of the load formation and the roof wall, the load formation and the roof wall further defining meniscus anchor points to permit liquid in the nozzle chamber to form a meniscus that spans the gap so that the meniscus can define a fluidic seal to inhibit the egress of ink from the nozzle chamber.

9. A printhead chip that comprises a plurality of liquid ejection devices as claimed in claim 1.